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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PATEL, TULSIDAS C

ART UNIT

PAPER NUMBER

2839

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/885,226

Applicant(s)

PAYER ET AL.

Examiner

T. C. Patel

Art Unit

2839

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondenc address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 and 20 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9-17, 19 and 22-26 is/are rejected.
- 7) ☒ Claim(s) 5, 8, 18, 21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/22/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

General Status

1. This is a **Final Action** on the Merits. Claims 1-26 are pending in the case. Non-elected claims 27-34 have been withdrawn in paper number 7.
2. In response to the Request for Withdrawal of Final Office Action, the Examiner has corrected previous Final Rejection and a corrected Final Rejection is presented herebelow. Any inconvenience to the Applicant is regretted.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:
 - (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
 - (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.
4. Claims 1, 2 and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by Dautartas et al. (US 5,841,544).

For claims 1 and 2, Dautartas et al. in figure 1, discloses a micro-optical component comprising an optical element including a lens 32, for interacting with an optical beam and a mounting structure 12 for attaching the optical element to an optical bench, wherein the optical element is attached to the mounting structure by solid-phase welding or thermo-compression bonding (column 2, lines 58-59.) For claim 6, the optical lens is also a microelectromechanical device and the mounting structure is attached to an optical bench 70.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 4 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al. in view of Synder (US 5,888,841)

The Dautartas et al. satisfies the limitations of claims 1, 2, and 5. Dautartas et al. in column 2, lines 43-44, discloses substrate made of silicon or of any suitable material. However, Dautartas et al. does not disclose bonding methods recited in claims 3, 4, 16 and 17 and gold coating required for thermocompression bonding as recited in claims 9 and 11. Synder, in figure 3 and 4, discloses bonding of an optical component to a substrate 102 and also in column 7, lines 45-50, discloses various method by which the optical components can be bonded to a substrate. In addition Synder, in column 6, lines 47-48, disclose use of gold in coating the substrate for bonding purpose. Therefore, it would have been obvious to one of ordinary skill in the art to use one of the suitable methods for bonding as taught by Synder and use substrate of metal or any other suitable material, as suggested by Dautartas et al. for purpose of supporting the optical element.

7. Claim 14, 15, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al. in view of WO 91/16022.

Dautartas et al. all the limitations of claim 14 including an optical element including a lens for interacting with an optical beam, a mounting structure, the optical element solid phase welded to the mounting structure and an optical bench. However, Dautartas et al. does not disclose the mounting structure solder bonded to the optical bench. WO '022, discloses a mounting structure for an optical element and the mounting structure 1 is soldered to the bench 10 (see page 5, lines 4-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to solder the mounting structure of the Dautartas et al. to the bench as taught by WO '022 so as to permanently fix the mounting structure to the bench.

8. Claims 16, 17, 22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dautartas et al. in view of WO 91/06022 as applied to claim 14 above, and further in view of Synder (US 5,888,841).

As discussed above, Dautartas et al. in view of WO 91/06022 satisfies the limitation of claim 14. However, Dautartas et al. or WO '022 do not disclose bonding methods recited in claims 16 and 17 and gold coating required for thermocompression bonding as recited in claim 24. Synder, in figure 3 and 4, discloses bonding of an optical component to a substrate 102 and also in column 6, lines 47-48, disclose use of gold in coating the substrate for bonding purpose. Therefore, it would have been obvious to one of ordinary skill in the art to use gold for bonding as taught by Synder so that the optical element can be bonded to the mounting structure.

Allowable Subject Matter

9. Claims 5, 8, 18 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 7 and 20 are allowed.

Response to Arguments

11. Applicant's arguments filed April 22, 2004 and December 1, 2003 have been fully considered but they are not persuasive.

In response to the request for withdrawal of Finality of Office Action, the examiner wishes to point out that the claims were amended in amendment received March 6, 2003 and therefore, the Final Office Action mailed January 23, 2004 was proper, the final office action of January 23, 2004, unfortunately included typographical error (WO 91/06022 was typed as WO 91/16022.) This Final Office Action is issued to correct the typographical error.

The examiner has carefully reviewed the arguments presented by the Applicant in the Appeal Brief dated Dec. 1, 2003. In response the Examiner has presented a new Final Office Action. The rejection based on 35 USC, 112, second paragraph has been withdrawn.

The Applicant has argued that "*the Dautartas et al. patent does not show or suggest the solid phase welding of the optical element to an optical bench via a mounting structure as claimed* and also "*Dautartas patent does not include a mounting structure*" (applicants argument, page 4). In response, the Examiner would like to point out that Claim 1, as recites "optical element solid phase welded to the mounting structure" and therefore, it is the optical

Art Unit: 2839

element and the mounting structure that are solid phase welded and not the optical element and the optical bench, as argued. As presented in the body of rejection, the reference of Dautartas et al. does disclose an optical element 32 solid phase welded to the mounting structure 12, and thus the claim 1 limitation is met. It is noted that the claim does not recite any particular physical structure or shape for the mounting structure and therefore, platform 12 of Dautartas is taken as mounting structure. The Applicant has also argued that "*the Snyder system, similar to the Dautartas system, does not use mounting structure.*" The Examiner has used Snyder system, for teaching of various bonding methods and use of gold for bonding and not used for teaching of solid phase bonding of optical element to the mounting structure.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 2839

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to T. C. Patel whose telephone number is (571) 272-2098. The examiner can normally be reached on 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571) 271-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



T. C. Patel
Primary Examiner
Art Unit 2839

Tcp
June 16, 2004